## Another archaic linguistic feature in Hittite

## Kazuhiko Yoshida

Kyoto

It is widely recognized that strikingly archaic linguistic features are preserved in Hittite<sup>1</sup>. Retention of archaism is most remarkable in phonology, where the discovery of laryngeals opened a way to the solution of many problems. The significance of Hittite for the study of Indo-European morphology seems less dramatic and in fact there still remain many issues which reject a consensus among scholars. One grammatical category in Hittite where no objection is raised to its antiquity is mediopassive verbs. The primary mediopassive endings from selected ancient IE languages are shown below.

	PIE	Vedic	Greek (ArcCyp.)	Old Irish	Hittite
sg. 1	$*-h_2er$	- <i>e</i>	-μαι	-ur	-ḫa(ḫa)(ri)
2	*-th <sub>2</sub> er	-se	-σοι	-ther	-ta(ri)
3	*-or, *-tor	-e, -te	-τοι	-thir (passive -air)	-a(ri), -ta(ri)

In extra-Hittite languages represented by Vedic, Greek and Old Irish the original mediopassive endings per se were more or less remade under the influence of the corresponding athematic active endings, 1 sg. \*-mi, 2 sg. \*-si and 3 sg. \*-ti. On the other hand, Hittite preserves essential features of the original mediopassive endings, \*-h<sub>2</sub>er, \*-th<sub>2</sub>er, \*-or and \*-tor.

In the 3 sg., two endings, \*-o and \*-to, are generally reconstructed. The ending \*-o is more archaic than \*-to. In the majority of daughter languages the innovative \*-to spread to a large extent. However, unmistakable traces of \*-o are found in Anatolian, Indic and Old Irish as observed in the above table. In Hittite a significant number of mediopassives still belong to the a-class as represented by eša "sits", kiša "becomes", etc. Vedic also has a significant number of 3 sg. mediopassives in -e which is a descendant of PIE \*-o plus deictic particle \*-i. The original ending \*-o is probably also retained in Old Irish passives in absolute -air and conjunct -ar.

A number of scholars suggested a 'stative' category for the archaic ending \*-o, which, according to them, shows a functional difference from the non-stative ending  $*-to^2$ . This suggestion is not very easy to accept because many Hittite a-class mediopassive verbs such as hattari "strikes", hattari "breaks" and hattari "calls" are unambiguously telic, and not stative in any ordinary sense of the term.

The two endings, \*-o and \*-to, are generally assumed to have existed at the Proto-Indo-European stage. For example, Watkins (1969: 84) states that "Das Heth. Material ... zeigt, daß beide Endungen (= -a and -ta [KY]) von der gemeinsamen Ursprache ererbt sein müssen; die Verdrängung von \*-o (heth. -a) durch \*-to (heth. -ta) war nur eine teilweise

<sup>&</sup>lt;sup>1</sup> This paper was orally presented at the 6th International Congress of Hittitology. Because of the limited time available for oral presentation I could not show full evidence for my claim. Readers interested in more details should refer to another paper of mine that will appear in a forthcoming Festschrift.

<sup>&</sup>lt;sup>2</sup> This position is most explicit in Oettinger (1976, 1993), Rix (1977), Kortlandt (1979), Kümmel (1996) and Gotō (1997), among others.

und die älteren und jüngeren Formen bestanden nebeneinander innerhalb des gleichen Systems sowohl vor wie nach der Trennung der idg. Einzelsprachen weiter". The view that the morphological change from \*-o to \*-to goes back to Proto-Indo-European seems perfectly straightforward at first glance because the innovative \*-to is observed everywhere in the daughter languages. However, there are pieces of evidence in Hittite that throw doubt on this view as far as the primary, that is, non-derived mediopassives are concerned.

Watkins (1969: 85f.) pointed out two types of morphological changes that occurred to the basic 3 sg. mediopassive ending -a in Hittite. One is the replacement -a to -ta, that is, PIE \*-o to \*-to and the other is -a to -atta. The second renewal is additive: the original ending -a came to be doubly characterized by the addition of the newly created -ta. As is correctly pointed by Watkins, it is important to note that the second morphological change presupposes the prior existence of the first morphological change, i.e., -a to -ta. The following three examples are adduced by Watkins as illustrating the substitution of -ta for -a.

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k\bar{l}_{i}a (< *\hat{k}e_{i}-o) \rightarrow kitta(ri) (< *\hat{k}e_{i}-to) "lies" e\tilde{s}a, e\tilde{s}ari "sits" \rightarrow e\tilde{s}tari tuh\tilde{s}a, tuh\tilde{s}a]ri (OH) "cuts off" \rightarrow tuhhu\tilde{s}a (OH+)
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However, the first two examples should be interpreted differently.  $k\bar{i}ja$  should be taken as a pronoun  $k\bar{i}$  plus an enclitic particle  $-ja^3$  and  $e\check{s}tari$  is used as the 2 sg., not as the 3 sg. The third example is a good case for the pattern of the replacement. Note that t-less  $tuh\check{s}a$  and  $tuh\check{s}[a]ri$  are attested in Old Hittite original manuscripts, whereas  $tuhhu\check{s}a$  with -ta is attested in a Middle Hittite copy of an Old Hittite text.

The examples that Watkins cites as the second morphological change, -a to -atta, are shown below.

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huittija(ti) (OH, Anitta) "pulled" \rightarrow huittijatta(t) (NH, Hattušiliš III) h\bar{a}lija, h\bar{a}lijari (OH++) "kneels down" \rightarrow halijattat (NH) halijari (OH++) "pours" \rightarrow halijattari KÜB XIII 8, 8 (jh) halija halija (OH) "calls" halija halija
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In the first example, a t-less huittiia(ti) attested in an Old Hittite original manuscript of

<sup>&</sup>lt;sup>3</sup> It is to be noted that the transformation  $*\hat{k}e\hat{j}$ - $o \rightarrow *\hat{k}e\hat{j}$ -to is in fact observed in Lycian sijeni and siteni.

A note should be given to la-hu-ua-ta-ri right to the arrow. According to the on-line concordance of Hittite texts maintained by Silvin Košak in Mainz, the manuscript which includes this form is Neo-Hittite abbreviated as jh. This on-line concordance is very useful in many respects, but it gives us information only on dates of manuscripts (ah, mh, jh), not on dates of texts. In this paper dates of texts are also given when possible. In any event the third sign of this form looks very strange. It looks like  $\mu a$ , but it seems to have two horizontals in a right part of the sign. Friedrich (1991:125) transcribes this form as lahuuatari with a question mark. Puhvel (2001:18) argues that it is la-hu-ut-ta-ri, not la-hu-ua-ta-ri without any further comments. Güterbock and Hoffner (1980:13) read it  $la-hu-ut^2-ta-ri$  with a question mark on ut. In my judgment la-hu-ut-ta-ri would be more likely because this reading is consistent with its corresponding preterite lahutat and also la-a-hu-ut-ta-ri (2×, NH) cited from an unpublished tablet (829/z) by Puhvel. If it is la-hu-ut-ta-ri, it will turn out that this example reflects the morphological change -a to -ta, not -a to -atta.

Anitta text is replaced by huittiiatta(t) with -ta, which is attested in a Neo-Hittite historical text of Hattušiliš III. The other three examples show the same pattern.

In addition to the above examples there are many more examples showing these two types of morphological changes<sup>5</sup>. The following list includes additional examples of -a to -ta.

```
šuppi jahhati (OH) "cleaned" → šuppi jahtari (mh)
pahšari (MH) "protects" → pahhaštat (NH)
šiuni jahhati (OH+) "was smitten (with disease)" → šiuni jahta (OH++)
šuppari (date?) "sleeps" → šu-up-ta'-ri (sjh)
karša (jh) "cuts" → karaštari (OH++)
`uaššāri (jh) "is favorable" → uaštari (jh)
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In the first example šuppijahhati with -a in an Old Hittite original manuscript was replaced by šuppijahtari with -ta in Middle Hittite manuscript. Likewise, in the second example pahšari with -a in a Middle Hittite was transformed to pahhaštat with -ta in a Neo-Hittite historical text. In the third example šiunijahhati with -a in a Middle Hittite copy of an Old Hittite text contrasts with šiunijahta with -ta in a Neo-Hittite copy of an Old Hittite text. In the fourth example, šuppari, the date of which cannot be determined, has -a in contrast to šu-up-ta'-ri, where ša sign is actually used in place of ta sign. It must be a scribal error because ša sign and ta sign are very similar. This šu-up-ta'-ri is recorded in a late Neo-Hittite manuscript according to the website by Silvin Košak. As for the pairs karša vs. karaštari and vaššāri with Glossenkeil vs. vaštari, all the examples are attested in Neo-Hittite manuscripts. But the examples with -ta must be secondary.

Additional examples that illustrate the morphological change, -a to -atta, are shown below.

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iškallāri (OH+) "tears up" → iškallatta (MH+)

ḫannari (OH++, MH) "decides", ḫannat (OH+) → ḫannatat (date?)

nēari (OH++) "turns", nēat (MH), nēja (MH), nejat (OH++, MH+) → nejattat

(OH++), etc.

LUGAL-izziat (NH) "reigned as a king" → LUGAL-izziiatta (jh)<sup>6</sup>
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In the first example *iškallāri* with -a attested in a Middle Hittite copy of an Old Hittite text is replaced by *iškallatta* with -atta in a Neo-Hittite copy of a Middle Hittite text. The same -a to -atta transformation is also observed in the remaining three examples. Although the date of *hannatat* cannot be determined, it must be a late form because of its final apocopated -t, not -ti.

There are ambiguous examples, too. The following examples cannot be easily classified as illustrating either -a to -ta or -a to -atta transformation:

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a[rg]a \text{ (MH+) "mounts"} \rightarrow arkatta \text{ (OH+)}

hinga \text{ (OH) "bows"} \rightarrow hinkatta \text{ (OH++)}

hinga \text{ (OH) "breaks"} \rightarrow paršitari \text{ (MH+)}
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<sup>&</sup>lt;sup>5</sup> The following examples are mainly from Neu (1968) and Yoshida (1990).

<sup>&</sup>lt;sup>6</sup> Besides LUGAL-*izzijatta* (jh) there is LUGAL-*uizzittat* (MH+), which is probably a syncopated form from the former.

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\tilde{s}i\bar{q}ari (OH++) "squeezes" \rightarrow \tilde{s}i\bar{q}\bar{e}ttari (jh) lagari (OH++, MH) "bends" \rightarrow lagaittari (jh)
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As for the first two examples, a[rg]a vs. arkatta and binga vs. binkatta, there is no way to judge whether a before the ending -tta is real or orthographic because in both cases the verb stems end in consonant clusters. They will turn out to be examples of the transformation -a to -atta if a before -atta is real, but examples of -a to -atta if it is orthographic. The third example atta is puzzling. atta must be a derived thematic present in \*-atta in general shows only the ending atta must be a derived thematic present in \*-atta in general shows only the ending atta must be a derived thematic present in \*-atta predilection, the extended form is atta paratta in orthographic. Contrary to this predilection, the extended form is atta probably produced from expected but unattested atta is the hapax atta paratta in the fourth example atta is irregular in having atta, not atta before the ending. It is probably due to the corresponding active atta. The fifth example atta is also unique in having atta before the ending. This contaminated form must have been created by attaching the mediopassive ending -atta to 3 sg. atta verb \*\*atta which is unattested but theoretically expected from atta in a parallel way that atta "grinds" is secondarily created from atta form atta in a parallel way that atta "grinds" is secondarily created from atta form atta in Jasanoff (2003: 65).

As I have demonstrated above, there are a large number of examples that illustrate the transformations, -a to -ta and -a to -atta. These examples clearly show that these two morphological changes were still operating in the historical period of Hittite.

Next let us take a closer look at examples with -atta. We have already seen above that mediopassives with -atta are late forms remodeled from their original forms with -a. In fact there was so far no example with -atta attested in an Old Hittite original manuscript.

How about other mediopassives marked by -atta from the very beginning of their attestation?

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harra- "crush": harrattari (MH, jh), pret. harratta (mh) (< *h<sub>2</sub>érh<sub>3</sub>-o-; cf. Melchert
                          1994: 79)
šarra- "break": šarratta (jh), šarrattat (mh) (< *serh<sub>2</sub>-o-)
tarra- "be able, can": pres. tarratta (OH+, mh), tarrattat (NH) (< *térh<sub>2</sub>-o-; cf.
                          Melchert 1994:79)
zinna- "end, finish": zinnattari (OH++), zinnat[t]at (jh) (< *si-n-h<sub>1</sub>-o-; cf. Melchert
                          1994: 80)
šanna- "conceal": šannatta (MH+) (< *senh<sub>2</sub>-o-)
arra- "wash oneself": pret. arratat (jh) (< *h_1erH-o-; cf. Jasanoff 2003: 78)
parh- "rush, drive, chase": parhattari (MH) (← *parra- < *bherh<sub>2</sub>-o-), cf. parahzi
hu uai - hu ja "run": hu ja + hu j
ep- "seize": eppattat (jh); cf. epzi
pippa- "turn over": pippattari (OH++) (< *pi-pH-or; cf. Jasanoff 2003: 131)
ue h- "turn": ue hatta (OH++, MH+), ue hattat (OH++, MH+) (cf. uē htari OH++)
šuvai- "fill": šuvattari (MH+), šuvattat (jh) (cf. šuttati jh)
tahš- "be allotted, be destinated": tahšattari (jh)
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<sup>&</sup>lt;sup>7</sup> This analysis is due to a suggestion from Craig Melchert (personal communication). As we saw above, syncope is also observed in LUGAL-uizzittat which must have been created from LUGAL-izzijatta.

It is interesting that the first six examples of the above list show a stem final laryngeal preceded by a sonorant, which regularly becomes geminated sonorants between vowels. They are harrattari, šarratta, tarratta, zinnattari, šannatta and arratat. The seventh example parhattari must have been secondarily created under the influence of the corresponding active 3 sg. parahzi and parhazi. parhattari probably replaced phonologically regular \*\*parrattari. As for the following hāi jatta, a before the ending -ta must be real because i is actually written. The same is probably true of eppattat and pippattari. They could be spelled \*\*eptat and \*\*piptat, respectively, but there are no such examples. As for he hatta and sunattari, they must have been remodeled from he hatari and suttati, respectively. In the case of the last example tahšattari, however, there is no way to tell whether a before the ending -ta is real or not because this verb has a stem final consonant cluster. It is important to note that none of these examples with -atta are again recorded in Old Hittite original manuscripts.

Among ta-class mediopassives with -ta there are five verbs which superficially seem to have an atta-ending.

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hulla-"combat": hulattati (OH++), hullattat (sjh) < *h_{2/3} \cancel{u} l-ne-h_l- (cf. Melchert 1994: 55)

luk(k)- "dawn, get light": lukkatta < *-\acute{e} je/o- (cf. Melchert 1984: 16)

tarna-"let, leave": tarnattari < *tr (K)neh_2- (cf. Melchert 1994: 167)

duyarnai-"break, tear to pieces": duyarnattari < *dhyenne-je/o- (cf. Melchert 1984: 36)

ija-"march": ijatta, but iētta (OH) < *h_l j-é-to or *h_l e j-to.
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From the first four stems are created mediopassives hul(l)attat(i), lukkatta, tarnattari and duuarnattari, all of which seem to be characterized by -atta. But a before the ending -ta is a part of the stem, and therefore they belong to the ta-class, not the atta-class. The prevalent form of the fifth stem iia- is iiatta, but iiatta is late. Old Hittite has iita, which Melchert (1984: 19) derived from a thematized  $*h_1i$ -iia-iia following Watkins (1969: 199). It would also be possible to derive it from the preform  $*h_1ei$ -ia-ia0 with initial yod analogically transferred from 3 pl. iia-ia0.

We have already seen a considerable number of examples which underwent the morphological changes, -a to -ta or -a to -atta in the internal Hittite history. It is, however, very doubtful that they completely shifted to ta- or atta-class from the original a-class in later Hittite. A great majority of the examples preserve their old character as a-class in their imperative forms, as is illustrated in the following examples<sup>8</sup>.

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eša, ešari → eštat, but imper. ešaru

tuḫša, tuḫš[a]ri → tuḫḫušta, but imper. tuḫšaru

laḫuuāri → laḫuttari, but imper. laḫūuaru

vaššāri → vaštari, but imper. vaššāru

paḫšari → paḫḫaštat, but imper. paḫšaru

hannari, ḫannat → ḫannatat, but imper. ḫannar[u]

nēari, nēat, nēia, neiat → neattat, neiattat, but imper. neiaru

a[rg]a → arkātta, but imper. argaru

lagāri → lagāittari, but imper. lagāru

karša → karaštari, but imper. karaššaru, karaštaru
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<sup>&</sup>lt;sup>8</sup> Needless to say, the list excludes the cases where imperative forms are not recorded.

paršija → paršittari, but imper. paršitaru, paršijaddaru

Although remodeling occurred in 3 sg. indicative forms, their corresponging 3 sg. imperatives are still a-class but for the last two examples. Interesting enough, two ta-class mediopassive verbs, hap- "join" (3 sg. hapdari, haptat) and au(s)- "see" (3 sg. haptat), have only a-class imperatives happaru and haptat0 are respectively.

Of enormous importance in determining the date when \*-o was replaced by \*-to are the examples as follows<sup>9</sup>.

```
pres. paḫšari vs. pret. paḫḫaštat (cf. imper. paḫšaru)
pres. eša(ri) vs. pret. ešati, ešadi, ešat ~ eštat, ēštat, ēššat (sic!) (cf. imper. ešaru)
pres. tuḫšari ~ tuḫḫušta vs. pret. tuḫḫuštati, tuḫḫuštat (cf. imper. tuḫšaru)
pres. laḫuuāri ~ laḫuttari (or laḫuuatari?) vs. pret. laḫuttat (cf. imper. laḫūuaru)
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In the first example the present form paḥšari retains original -a, whereas the preterite paḥḥaštat is remodeled to ta-class. In the second example the present form is exclusively eša or ešari with original -a, but the preterite has eštat or ēštat with remodeling as well as older ešati, ešadi and ešat. In the third example the preterite forms are consistently characterized by -ta. Because tuḥḥuštati has the unapocopated particle -ti which is characteristic of Old Hittite, the replacement of -ta for -a in the preterite must have been earlier than the same replacement in the present, where both tuḥšari with -a and tuḥḥušta with -ta are attested. The fourth example has original a-class laḥuuāri as well as innovative laḥuttari in the present, but the preterite has only laḥuttat with -ta.

Also crucial are the following examples, which show the pattern of present in -a(ri) vs. preterite in -attat.

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pres. hannari vs. pret. hannat ~ hannatat (cf. imper. hannar[u])
pres. neja(ri), nēari vs. pret. nejat ~ nejattat, neattat (cf. imper. nejaru, nejāru)
pres. huittijari vs. pret. huittijati ~ huittijattat (cf. imper. huittijaru)
pres. hālija(ri) vs. pret. halijattat
pres. iškallāri vs. pret. iškallatta
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All the examples of the present preserve original -a, as illustrated by hannari, neja(ri), nēari, huittijari, hālija(ri) and iškallāri. In the preterite, on the other hand, there are remodeled forms with -atta such as hannatat, nejattat, neattat, huittijattat, halijattat and iškallatta.

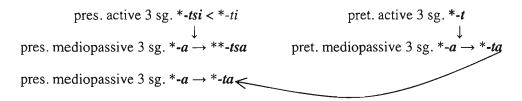
Let us summarize our results obtained from the survey of Hittite internal facts. i) Two morphological changes,  $-a \rightarrow -ta$  and  $-a \rightarrow -atta$  were still in progress in the historical period of Hittite. ii) Mediopassives with -atta are characteristic of later Hittite. None of the examples are attested in Old Hittite original manuscripts. iii) A great majority of remodeled mediopassives with -ta and -atta still preserve their original a-class status in imperative forms. Furthermore, there are some cases where even ta-class mediopassives have imperatives in -aru. iv) There are many pairs which show the patterns, pres. in -a(ri) vs. pret. in -tat(i) and pres. in -a(ri) vs. pret. in -attat.

<sup>&</sup>lt;sup>9</sup> The forms with -ta and -atta in the following lists are marked in bold face for the convenience of clarity.

These findings are now open to historical interpretation. At the outset of this paper I showed the paradigm of the mediopassive endings reconstructed for Proto-Indo-European, where both \*-o and \*-to are included as the 3 sg. endings. At this point we may wonder when Proto-Indo-European was spoken. Watkins (1998: 26) refers it to "seven thousand years ago", that is, 5000 BC. As we saw above, the morphological changes  $-a \rightarrow -ta$  was still operating in the Hittite historical period. The reconstruction of \*-to for Proto-Indo-European would inevitably lead us to assume that the speed of this morphological change was exceptionally slow. It would turn out that the change was in progress for more than 3,500 years. Because such a situation is simply unconceivable, the ending \*-to cannot have been created at the Proto-Indo-European stage. This view is supported by two facts presented above. The ending -atta, which is addition of -ta to the original -a, presupposes the prior existence of -ta. The complete lack of -atta in Old Hittite original manuscripts shows that the creation of -ta does not go back to a very early period. The preservation of original \*-a in the imperative will be a further confirmation of this view  $^{10}$ .

If I am on the right track in assuming that neither \*-to nor \*-oto does not go back to the common period, the next question to be asked is whether there are any clues to determining when the morphological changes \*- $o \rightarrow$  \*-to and \*- $o \rightarrow$  \*-oto occurred. In this respect our finding that -ta is overwhelmingly favored in the preterite plays a decisive role. An implication of this distributional imbalance is not very hard to understand. If the morphological influence from the primary active 3 sg. \*-ti and that from the secondary active 3 sg. \*-t were the same, the degree to which \*-o was replaced by \*-to would be no different between the present and the preterite. This is probably the case that happened in non-Anatolian languages like Greek as illustrated below.

In Hittite, on the other hand, the present active 3 sg. \*-ti became \*-tsi by an affrication rule that occurred in its prehistory<sup>11</sup>. The \*-tsi created by assibilation did not put any morphological pressure on the corresponding present mediopassive ending as illustrated below.



Watkins (1969: 86) himself, in a passage where he equates his alleged *ešari* remodeled from *ešari* with Vedic *āste*, suggested late character of \*-to by stating that "das heth. Beispiel läßt es durchaus möglich erscheinen, daß all diese Formen spontane Parallelentwicklungen aus nach-idg. Zeit sind."

I argued in Yoshida (1998) that affrication also occurred to lenited \*-di, but I will not consider this case here so as not to make our discussion unnecessarily complicated.

But the preterite active 3 sg. \*-t, which did not undergo the affrication, did have morphological influence on the corresponding preterite mediopassive ending. In fact, Hittite favored unlenited \*t rather than lenited \*d in this morphological change<sup>12</sup>. The \*-ta thus first created in the preterite 3 sg. later gradually replaced \*-a in the corresponding present 3 sg. This reconstructed prehistory would probably best account for the preponderance of -ta over -a in the Hittite preterite mediopassive. During later attested history of Hittite -ta also came to be attached to the original -a first in the preterite (pret. mediopassive 3 sg. -a(ti)  $\rightarrow$  -a-tta(ti)) and then in the present (pres. mediopassive 3 sg. -a(ti)  $\rightarrow$  -a-tta(ti)).

The results of our findings and analyses in this paper are summarized below. The morphological changes,  $-a \rightarrow -ta$  and  $-a \rightarrow -atta$ , are still operating during attested Hittite history. This fact, together with the nonexistence of -atta in Old Hittite and the original a-class status in imperatives, shows that 3 sg. mediopassive verbs in \*-to had not been created at the Proto-Indo-European stage. The fact that -ta is overwhelmingly favored by preterite mediopassives in Hittite leads us to assume that many ta-class mediopassives were created after the affrication. The morphological history of Hittite mediopassive verbs clarified in this paper shows that another archaic linguistic feature which the other branches lost is still retained in Hittite.

## References

Friedrich, Johannes, 1991, Kurzgefaßtes Hethitisches Wörterbuch. Heidelberg.

Gotō, Toshifumi, 1997, "Überlegungen zum urindogermanischen «Stativ»", in Berthold Delbrück y la Sintaxis Indoeuropea Hoy, ed. Emilio Crespo y José Luis García Ramón. Wiesbaden, 165-192.

Güterbock, Hans G. and Harry A. Hoffner. (eds.) 1980, *The Hittite Dictionary*, vol. 3/1. The Oriental Institute of the University of Chicago.

Jasanoff, Jay H., 2003, Hittite and the Indo-European Verb. Oxford.

Kortlandt, Frederik, 1979, "Toward a reconstruction of the Balto-Slavic verbal system", *Lingua* 49:51-70.

Kümmel, Martin, 1996, Stativ und Passivaorist im Indoiranischen. Göttingen.

Melchert, H. Craig, 1984, Studies in Hittite Historical Phonology. Göttingen.

—, 1994, Anatolian Historical Phonology, Amsterdam.

Neu, Erich, 1968, Interpretation der Hethitischen Mediopassiven Verbalformen. Wiesbaden.

Oettinger, Norbert, 1976, "Der indogermanische Stativ", MSS 34:109-49.

—, 1993, "Zur Funktion des indogermanischen Stativs", in *Indogermanica et Italica: Festschrift für Helmut Rix zum 65. Geburtstag*, hrsg. von Gerhard Meiser. Innsbruck, 347-361.

Puhvel, Jaan, 2001, Hittite Etymological Dictionary, vol. 5. Berlin.

Rix, Helmut, 1977, "Das keltische Verbalsystem auf dem Hintergrund des indo-iranisch-griechischen Rekonstruktionsmodells", in *Indogermanisch und Keltisch. Kolloquium der Indogermanischen Gesellschaft am 16. und 17. Februar 1976 in Bonn*,

It is well known that word final stops became lenited in Proto-Anatolian; thus,  $*-t > *-d/V_{---}\#$ .

hrsg. von Karl Horst Schmidt. Wiesbaden, 132-158.

Watkins, Calvert, 1969, Indogermanische Grammatik III/1: Geschichte der Indogermanischen Verbalflexion. Heidelberg.

— ,1998, "Proto-Indo-European: Comparison and reconstruction", in *The Indo-European Languages*. ed. by Anna and Paolo Ramat. London, 25-73.

Yoshida, Kazuhiko, 1990, The Hittite Mediopassive Endings in -ri. Berlin.

—, 1998, "Hittite verbs in -Vzi", in Acts of the IIIrd International Congress of Hittitology. Corum, September 16-22, 1996, ed. by Sedat Alp and Aygül Süel. Ankara, 605-14.